

Amendments to the Specification

Please replace the paragraph beginning on page 3 at line 26, with the following amendment paragraph:

The present invention is directed to a filter for use with a fuel cell comprising an inlet, an outlet and a medium made from a perfluorinated sulfonic acid polymer and disposed between the inlet and the outlet. The fuel exiting the filter contains less metal ion particles than fuel entering the filter. The perfluorinated sulfonic acid polymeric medium is substantially similar to the polymer electrolyte membrane or proton exchange membrane in the membrane electrode assembly of the fuel cell.

Please replace the paragraph beginning on page 4 at line 9, with the following amendment paragraph:

The present invention is also directed to a perfluorinated sulfonic acid polymer filter medium adapted to attract metal ions from fuel usable in a fuel cell and from liquid byproduct produced in the fuel cell. The filter medium is substantially similar to the polymer electrolyte ~~exchange~~ membrane in the membrane electrode assembly of the fuel cell, and the filter medium is positioned within the fluidic flow path related to the fuel cell, e.g., the fuel cartridge, the mixing chamber and/or the byproduct chamber.

Please replace the paragraph beginning on page 8 at line 6, with the following amendment paragraph:

With respect to the control circuit, which is fully discussed in co-pending patent application entitled "Fuel Cell System including Information Storage Device and Control System," controller 18 is setup to control the flow of fuel through the fuel cell. Controller 18 can be positioned within fuel cell 10 or in electronic device 11. The controller can also be positioned on the fuel cartridge, or the functions of the controller can be performed by the central processing unit (CPU) or controller of the electronic device 11. Controller 18 can read information stored on information storage devices 23, 266, 268 and write information to these

information storage devices. Controller 18 can also read electrically readable fuel gauge 264 to ascertain the amount of remaining fuel. Such gauge is disclosed in co-pending patent application serial no. [[_____]] 10/725,236, entitled "Fuel Gages for Fuel Cartridges," filed on even date herewith, which is incorporated herein by reference in its entirety. Controller 18 can also be connected to two-component valve 24, so that the controller can control the opening and closing of valve 24. The controller can also read sensors, such as flow meter 254, fuel concentration sensor 260 and ion sensor 272.

Please replace the paragraph beginning on page 8 at line 26, with the following amendment paragraph:

In accordance with one aspect of the present invention, an ion filter is provided to fuel cell 10 and/or cartridge 12. With reference to FIG. 2, an enlarged view of filter 270 within outlet 22 of the cartridge is shown. Filter 270, in this preferred embodiment, comprises a Nafion® perfluorinated sulfonic acid polymer (available from DuPont). Since ion particles are known to permeate and reduce the effectiveness of Nafion® polymers used as the PEM in the MEA, when the filter material is made from the substantially same material as the PEM and the filter is located upstream of the MEA, the ion particles would be attracted to the filter and be removed from the fuel before the fuel reaches the MEA. Hence, the filter material is selected to be substantially the same as the PEM material. ~~Filter material can also be made from ion-exchange resins such as Amberlyst® from Rohm & Haas.~~